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## A Picture Age: Reproductions in Picture Study

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The picture study movement was, in part, the result of the late-19th-century development of printing processes capable of reproducing works of art. Picture-study advocates favored using these photomechanically produced halftone reproductions which shared the qualities of line and tone found in older intaglio and relief printing processes. This historical description of the reproductions used in picture study illustrates how popularist attitudes toward art and technological changes set the context for a curriculum movement in art education. At the same time, traditional assumptions about appropriate aesthetic qualities for reproductions prevented many art educators from making the best use of new technologies.

**D**uring the second half of the 19th century, technologies able to reproduce images of all sorts multiplied rapidly. Between 1840 and 1900, chromolithographers like Louis Prang of Boston sought to create a democratic art by publishing colorful reproductions of popular works of art (Marzio, 1979). Chromos and other printed reproductions paved the way for acceptance of photomechanically produced reproductions as potential aesthetic objects. According to Harris (1979), between 1885 and 1910 Americans were exposed to a visual revolution caused by the advent of the halftone printing process. This technology multiplied the numbers and types of visual images available, giving rise to what Hall (1900) labelled a picture age.

One effect of the picture age was development of the curriculum movement known as picture study. Lasting roughly from 1895 through the 1920s, picture study sought to develop appreciation of fine art among school children. Green (1948), Eisner and Ecker (1966), Saunders (1966), Dobbs (1972), Jones (1974), and Smith (1983) all have contributed to our knowledge of picture study. From their historical accounts we learn that teaching materials for picture study included black-and-white and sepia reproductions of paintings of great artists. Larger reproductions were displayed in school halls and classrooms, while smaller prints might be distributed to students. Two of the companies that made

reproductions available were the Prang Educational Company and Perry Prints. Books and articles published in *School Arts* during the editorship of Henry Turner Bailey offered useful information for the teacher of picture study. Suggested methods included telling the story of the painting and its artist, asking the children questions about subject matter or story, setting up tableaux, writing stories, or making booklets of reproductions with essays. Older students also copied the pictures under study, analyzing them for principles and elements of design. At the primary school, the objectives of picture study were identification of subject matter and moral lessons. In grammar school, the goals included knowledge of artistic composition, its elements and principles.

Appreciation of the aesthetic qualities of art was the avowed goal of picture study. Before one can be sensitive to aesthetic values in visual art, one must perceive the aesthetic object. Beardsley (1958) distinguished the work of art as physical object from the work as perceptual object; he equated the latter with the aesthetic object. However, what happens when the object available for appreciation is not the actual work of art but a reproduction, lacking the color, texture, and scale of the original? Art critics and historians (Gilson, 1957; Eitner, 1975) caution that any reproduction changes the sensuous experience of the work and reduces its significance. On the other hand, Pepper (1945) argues that the aesthetic work of art is not located in any physical object, but is instead a cumulative succession of perceptions of the work by all possible spectators within a cultural

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continuum. Reproductions, in Pepper's terms, serve as "approximate multiple continuants" (p. 158), in some way part of the continuing physical work of art. Thus, they contribute to the eventual realization of the aesthetic work of art. Like Pepper, Malraux (1956) finds benefits in the *museum without walls* made possible by reproductions.

Art educators have critically examined the quality and effectiveness of contemporary reproductions. Marantz (1966) suggests that almost any reproduction can be used for identifying a work of art or describing its subject; as teacher and student move to higher levels of analysis or seek personal involvement with the work of art, the quality of the reproduction becomes much more important. Schwartz (1982) warns that although reproductions bring art closer to the student, they also separate the work from its humanistic function. The Wilsons (1982), in a study grounded in Pepper's contextualist theory, conclude that reproductions may be effective stimulants to aesthetic experience. They find, however, that students do respond differently to reproductions which inadequately approximate the original work.

The reproductions used as objects of appreciation in picture study were perceptually different from their originals. Some art educators involved in picture study recognized this fact; however, most expected students to respond to the reproductions as if they shared aesthetic identity with the original works. Two factors contributed to this assumption. First, an idealistic philosophy of art education united formalist and romantic aesthetic theories, resulting in the belief that works of art transmitted the artist's virtues to the viewer. Since the essence of art was non-material, even poor reproductions were expected to convey the potent spiritual influence of a masterpiece. Second, the perceptual qualities of certain kinds of reproductions had come to be accepted as necessary aesthetic qualities. In order to understand why linear, black-and-white or sepia reproductions of works of fine art were actually preferred by most advocates of picture study, it is necessary to turn back to the mid-19th-century to examine the kinds of reproductions available and the debate regarding their use in art education.

#### **Prang's Popular Chromos**

Louis Prang (1824-1909) was a German-born printer and entrepreneur who perfected the chromolithograph, printed the first

American Christmas cards, and devoted his last years in the business world to the cause of art education (Sittig, 1970; Freeman, 1971; McClinton, 1973). Trained in fabric printing and dyeing as well as in wood engraving, Prang found his first commercial success in printing Civil War battle maps. Profits from this venture enabled him to travel to Europe to study the most up-to-date techniques of lithography. On his return to Boston, Prang began to print multicolored lithographs of oil paintings. The first prints rolled off the presses in 1865, reproducing paintings by the Boston artist A. T. Bricher.

Chromolithography was a complex process that required perfect registration of up to thirty stones as well as a "sophisticated understanding of color", according to Marzio (1979, p. 9). Prang worked with his friend William Herring, a skilled chromographer or color separator. The chromographer studied the original painting, analyzing it into separate colors for printing. Using one key tracing, the lithographer would draw each color on a separate stone, using subtle layers of color to imitate the rich yet delicate shadings of the original. Other printers had experimented with multicolored lithographs, but Prang refined the techniques and introduced a process for embossing the final print, then mounting it on linen to create a facsimile reproduction of a stretched canvas. While Prang reproduced some oil paintings by European artists, most of his chromolithographs were copied from landscapes, still lifes, and genre scenes by American painters. He coined the name *chromo* to refer to his products, samples of which he sent to leading critics of the day.

Art critics and advocates of high culture, such as E. L. Godkin of *The Nation* and Clarence Cook of the *New York Daily Tribune*, argued that chromos were anti-art: garish in color, too mechanical to be artistic, symbolic of social decline. Chromo was the 19th century equivalent to *plastic* as a descriptive term for the shoddiness of contemporary culture. Some criticism was directed to the custom of coating chromos with an oily varnish, then embossing them with a roller to counterfeit the texture of canvas and paint; but there were deeper concerns as well.

The conservative critics of the chromo, Godkin and Cook, held an idealist aesthetic in which the work of art was valued for its formal aesthetic qualities and as the unique product of a noble soul. The artist was per-

ceived as godlike in the ability to recreate, and sometimes improve upon, natural beauty. The chromo was considered merely a mechanical imitation of the artist's masterpiece. It should not embody the same aesthetic qualities as the original and, if it appeared to do so, the critics argued that it was deceitful. Godkin and Cook both wrote for an upper class elite who had traveled to Europe and seen the best examples of fine art. An engraved reproduction might serve to remind the returned traveler of some features of the masterpiece that had stimulated aesthetic admiration, but a reproduction could never be capable of stimulating aesthetic response on its own. Great art, according to Godkin (1870), was difficult to approach. Its pleasures were probably best reserved for those whose tastes were already educated.

Prang took a popularist position against this conservative, elitist view of art. In an exchange with Cook, Prang declared that "the education of the million demanded the power-press for literature and now it claims Chromolithography for the art of painting" (1866, p. 6). Prang asserted that the chromo was hand-maiden to art education; even a poor picture could stimulate the art impulse that would naturally seek more and better sustenance. Prang rejected the theory that the chromo should serve merely as an artistic memorandum. He argued instead that its chief use was "to cultivate the aesthetic taste of *the people* [italics in original], to popularize art by scattering broadcast over the land highly finished copies of popular works of art" (1867, p. 438). For Prang, the reproduction was a potential aesthetic object. He argued that art should not be limited to an educated elite. His chromos made art available to all levels of taste at a low price, meeting a craving for colorful pictures. According to Prang, the closer the chromo came to the original oil painting, the greater the display of skill and merit; whether these qualities were mechanical or artistic was irrelevant. Prang believed that the engraved reproductions of fine art then available would never draw ordinary people to art. Such linear, black-and-white reproductions were hard and dry, unlike the colorful, often sentimental chromos that brightened poorer homes and enriched simple lives.

Prang had allies in his crusade to bring reproductions of art to the people. Both James Parton, writer for *Atlantic Monthly*, and Harriet Beecher Stowe advocated the chromo as a means to disseminate art and

thereby raise the national standard of aesthetic taste. Unlike Godkin and Cook, Parton marveled that the chromo was so much like the original oil painting that many viewers could not tell the difference. Parton described the mission of the chromo "not to add to the world's treasures of art, but to educate the mass of mankind to an intelligent enjoyment of those which we already possess" (1869, p. 354). In Parton's opinion, a chromo was a more worthy aesthetic object than second-rate but original oil paintings that even then were mass produced in painting factories and sold for five dollars the pair, gilt frames included. Beecher and Stowe (1869) recommended chromos to American housewives as tasteful decorations and as educational influences on the children of the house. Stowe's comments on the chromo anticipated both the feminine character of picture study and its rhetoric. In agreement with Parton and Prang, she considered the colorful new reproduction an aid to general art education.

Although critics of the chromo declared that they were only suitable for children and servants whose uneducated tastes would respond to the bright color and sentimental subject matter (Godkin, 1870), Prang argued that the art educational value of the chromo lay in this very appeal. As a businessman, Prang wanted to create an audience for his products. He was genuinely concerned with art education, however, and the work of the Prang Educational Company merits further attention from historical researchers. Prang's first contributions to art education was his conception of the facsimile reproduction as one way to introduce large numbers of people to popular works of art. While Prang's popularist attitude would be continued in picture study, the vehicle would be not the chromo but the new halftone pictures.

#### A Hierarchy of Printing Processes

In 1875 students at Massachusetts Normal Art School could identify six standard processes for reproducing pictures: wood engraving, copperplate engraving, etching, mezzotint engraving, aquatint, and lithography (*Antefix*, 1875). Illustrated books and periodicals of the day used a variety of these processes; illustrations for a single article might use several different processes. By the 1890s, reproductions in books and periodicals generally combined one or more traditional processes with photographic technology. When Emery in her 1898 book published by

Prang explained how a picture journeyed from artist to reader, the journey always included a stop at the photographer's. The hunger for pictures whetted by the chromo was to be satisfied by the halftone.

Throughout the early 19th century, reproductions of works of art were chiefly line drawings, reproduced by engraving on steel or wood. The engraver had to study the original work carefully to understand the composition, formal structure of line and shape, and relationship of light to dark masses. In many cases the engraver had to translate areas of color into black and white lines, creating a range of grays which could then be read for color. In keeping with neoclassical aesthetic theory, some reproductions omitted all indications of color or tone, retaining only line. Reproductions abstracted the art work, emphasized idea over sensuous form, reduced form to outline, minimized detail, omitted color and surface texture. Fine art came to be identified with line and composition as interpreted through the engraver's eye and hand. Intaglio processes such as etching and steel engraving were respected as the traditional means of reproducing art. Line was the primary code in engraved reproductions (Jussim, 1974). Repetition of line created tone. By translating the colored surface of a painting into linear pattern, the engraver put a personal interpretation into the work. Subtleties of surface and painterly style were replaced by the engraver's analysis of composition and tone. Subject matter and design were emphasized in reproductions created by intaglio processes. Either a photographically produced zinc relief plate or the half-tone process could be used to further reproduce an intaglio for a book or periodical (Emery, 1898).

Although it was a relief process, wood engraving also produced an image strong in line, tone, and composition. The wood block could be stereotyped or electrotyped for mass printing. Wood engraving was synonymous with excellence in illustration and reproduction in the 19th-century American magazine. Clarke (1885) praised the quality of contemporary magazines; he credited them with popularizing art and raising the standard for art industries through their fine wood engravings. Wood engravers, notably Timothy Cole, brought masterpieces to the public through their interpretations. The skilled wood engraver signed his work, adding *sc.* or *Sculpsit* to distinguish his signature from that

of the original artist. Even after the halftone process had made wood engraving virtually obsolete, *Century* continued to publish Cole's interpretations of masterpieces, paying him up to \$300 for a page-size image while comparable halftones cost less than \$20 (Mott, 1957).

Mezzotint is an intaglio process based on scraping lights into a metal plate that has been dented and burred into a textured surface capable of producing velvety blackness. Photogravures or photo-mezzotints were developed in 1879. These processes produced rich, soft tones and delicate variations without the use of a mechanical screen. By the mid-1890s, this process was commonly used for art reproductions and fine illustrations (Berry & Poole, 1966). Processes derived from the mezzotint emphasized the tonal masses of the art work in contrast to the linear code of engravings.

Among art historians, photographs were considered the ideal reproductions because of their apparent objectivity. Connoisseurs such as Berenson used photographs in classifying and attributing works of art; other art historians relied on photographs as teaching aids. Brown (1979) describes how photo archives such as Alinari of Florence developed during the 1890s to serve scholars. In spite of tonal inaccuracies caused by early orthochromatic films sensitive chiefly to cool colors of light and by a tendency to crop the painting so figures were emphasized over setting, "by the end of the century photography had superseded metal and wood engraving and lithography as the standard method of reproducing visual images" (Brown, 1979, p. 46). Large photographs approximately 18" by 24" were suitable for schoolroom decoration. Smaller photographs about 8" by 10" invited closer study. The photograph recorded the surface texture of the original work of art more accurately than other processes while still translating the composition, line, and tonal harmony of the painting into black, white, and grays.

The carbon print or collotype uses a planographic process for photomechanical reproduction without the use of a screen. This process, developed in 1854, was suitable for small editions of high quality images with subtle gradations of tone. Braun, Clement and Company was a major source of carbon prints. The halftone reproductions in Hurl's (1900, 1914) series of books on famous artists were based on carbon prints, translated into halftone by John Andrew and Son.

All of the above processes for reproducing art works were supplemented or displayed by the halftone process, developed during the 1880s. Emery (1898) described the halftone process starting with a photograph of the original painting. This photograph was rephotographed through a screen made of two glass plates covered with fine parallel lines, 150 to 200 lines per inch, placed at right angles. The new negative was printed on a polished copper plate. Those areas to be dark in the final image were protected by an enamel coating while light areas were etched in an acid bath. The halftone seemed to combine some of the best qualities of the other processes. It appeared objective because it was photographic. The artisan could retouch areas so there was some interpretation of values. Both line and tone were visible in the final picture. Any of the earlier printed reproductions could be rephotographed as halftones. When an image had passed through several processes of reproduction it could change perceptibly. Often halftone processes were used to reproduce earlier engraved reproductions, creating an image that bore little resemblance to the original work of art.

The technology necessary for three-color halftone reproduction was available in 1885 although it was not perfected until nearly 20 years later. By 1904, *Century* was using the three-tone process for full color illustrations. Bailey urged *School Arts* readers to examine the frontispiece of the February, 1904, issue of *Century* where they could see "a foregleam of what the three-tone process is destined to do for us in the way of reproducing the masterpieces of the renaissance" (1904, p. 317).

Although Bailey saw potential in the colored reproductions made possible by the three-color halftone, most art educators involved with picture study preferred black and white or sepia-toned reproductions. The popularity of the sensuous, brightly colored chromo with its sentimental realism had made it an inappropriate means for the serious study of fine arts. Most articles on picture study recommended those codes that traditional processes of reproduction were capable of transmitting as aesthetic qualities worth valuing. In the hierarchy of graphic processes supported by 19th-century critics, the older, more traditional forms of printmaking "were intrinsically more artistic than the newer ones" (Ivins, 1953, p. 113). Etching was superior to wood engraving; both were pref-

erable to lithography. The photographic processes that became available during the 1870s were at the bottom of the hierarchy until their cheapness and ability to reproduce recognized aesthetic qualities of line and tonal mass were accepted. As one character in Howells's 1890 novel, *A Hazard of New Fortunes* (1965), described the halftone illustrations in a new magazine, the art editor "managed that process so that the illustrations look as expensive as first-class woodcuts, and they're cheaper than chromos. He's put style into the whole thing" (p. 174).

Another example of the low status of the chromo is found in *The Perry Magazine*, a journal devoted to picture study published from 1898 to 1906 by Eugene Ashton Perry whose Perry Prints were widely used in classrooms. One of a series of short stories illustrating Froebel's universal truths as they might be apprehended through a child's experience took the form of a dialogue between a German woodcut and a New York chromo ("Jocelyn", 1906). The latter was lively and colorful as it described how it was created, printed, and distributed. The black and white line woodcut, planned by a humble educator, was the spiritual embodiment of universal beauty. At the end of the fable, it endured while the commercialized chromo was thrown away by the child who owned them both.

### Pictures to Study

In picture study, Prang's popularist attitude was united with the values of the traditional hierarchy of printing processes. The recommended pictures were those which translated the original work of art into sepia or black and white lines and tonal masses. The goal was not to refine the sensibilities of a few; instead, the rhetoric of picture study stressed the value of the picture, particularly the fine-art masterpiece, as a way to introduce all students to the highest ideals of art and the personalities of the greatest artists. The fact that the favored reproductions differed from the original art works in color, scale, texture, and other perceptual qualities was virtually ignored. Most art educators agreed with Horton: "Great pictures are so full of beauty that they can bear the process of reproduction and still be rich fields for study" (1921, p. 6). Over two decades earlier, Emery (1898) expressed a similar sentiment. Admitting that the halftone illustrations in her book were reproductions of reproductions, she nonethe-

less asserted that any really great work of art could bear dilution from processes of reproduction and still have both tonic qualities and pleasure giving power.

In 1906, *School Arts* reported James Parton Haney's recommendations on reproductions suitable for school use. Pictures should be simply composed with subjects that appealed to children; bright chromolithographs and imitation watercolors, like those produced by Prang, should be avoided (Bailey, 1906). Other articles in *School Arts* suggested that sincere reproductions in subtle tones of gray or brown were always preferable to brightly colored facsimiles. Only a few turn-of-the-century art educators recognized inadequacies in the new halftone reproductions. Dana argued that photographic reproductions of fine art were "mere shadows" (1906, p. 9), only adequate as a means to impart knowledge. He recommended everyday objects as a more effective means to help students perceive aesthetic values. Magazine illustrations or Sunday comics could illustrate style; chromolithographs, though horrors in some respects, could be used to develop appreciation of color. Bailey shared Dana's recognition of the value of popular art forms in picture study. In December, 1903, Bailey began to include reviews of the previous month's general circulation magazines with book reviews in *School Arts*. He recommended the study of wood engravings as well as halftone illustrations, discussing the aesthetic qualities of pictures from various processes. Dana and Bailey were, however, a minority; most art educators from 1895 through 1920 believed that halftone reproductions of masterpieces were the most effective aids in the development of art appreciation.

Most turn-of-the-century art teachers had not seen the originals of the pictures they taught in picture study classes. They did not realize how much their halftones differed from the authentic works of art. At the same time, the halftone process maintained ties with the traditional processes of reproduction by utilizing similar qualities of line and tonal masses. What Benjamin (1955) has called the aura of the aesthetic work of art was attached to the halftone reproductions. Proponents of picture study wrote as if some magic were transmitted from artist to viewer through the halftone reproduction. Pictures were used in rituals enacted by the cult of picture study. They were carefully mounted for display and

preservation. *Tableaux vivant* were a popular means of re-enacting favorite pictures. Some art educators even argued that possession of a masterpiece in halftone would inspire a slum family to cleanliness and order (Bristol, 1906).

Analytic study of visual images appeared in the public school art curriculum at a time when analysis was being supplanted by technology in the reproduction of art works. When the halftone and other photographic processes of reproduction were invented in the late 19th century, technology replaced the intellectual analysis and intuitive judgment of the skilled printer. In the years from 1885 through approximately 1920, formal analysis shifted from a vocational skill to a means for students to learn about art. In a conservative era, reproductions made by the new technologies were valued insofar as they possessed the perceptual qualities of older methods of reproduction. In a period that romanticized the artistic genius, masterpieces were valued because they somehow provided contact with the larger spirit of the most noble artist. In an era of social reform, picture study was expected to supplement moral and religious instruction, bringing elite virtues to poor immigrant children. In an era of feminization of culture (Douglas, 1977), pictures brought the feminine touches of taste and refinement from the home into the school. In the sway of an idealist philosophy of education, reproductions of masterpieces were considered models of ideal beauty of subject and composition. Hurlt wrote in 1914: "the perfect picture satisfies the senses, stimulates the critical faculties, and inspires the spiritual imagination" (p. 15).

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